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EXAMINER

DANIEL JR, WILLIE J

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

1. This action is in response to applicant's amendment filed on 17 August 2009. **Claims 8-11, 13, 15-23, 25, and 27-31** are now pending in the present application and **claims 1-7, 12, 14, 24, and 26** are cancelled. This office action is made **Final**.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 8-11, 13, 15-23, 25, and 27-31 are rejected under 35 U.S.C. 102(e) as being anticipated by **Walker et al.** (hereinafter Walker) (**US 7,342,973 B2**).

Regarding **claims 8 and 20**, Walker discloses in a first wireless communication device, a method of carrying out wireless communication with a second wireless communication device (see abstract; Figs. 1-2, 20-22), said method comprising:

(a) selecting a highest frequency band from a plurality of frequency bands (see col. 7, lines 25-31, 45-51; col. 8, lines 17-41, 52-65; Figs. 1-2, 9-11), where the system monitors bands to determine availability and interference to select an available band for communication as evidenced by the fact that one of ordinary skill in the art would clearly recognize;

(b) determining whether the selected frequency band includes an unused channel in which no disturbing wave is present (see col. 8, lines 17-41,52-65; Figs. 1-2, 9-11);

(c) when the selected frequency band includes the unused channel in which no disturbing wave is present (see col. 7, lines 25-31,45-51; col. 8, lines 17-41,52-65; Figs. 1-2, 9-11), where the system monitors bands to determine availability and interference to select an available band for communication as evidenced by the fact that one of ordinary skill in the art would clearly recognize,

determining, for a highest one of a plurality of transmission rates associated with the selected frequency band, whether a received field strength value exceeds a threshold value (see col. 7, lines 25-31,45-51; col. 8, lines 17-41,52-65; Figs. 1-2, 9-11),

if the received field strength value at the highest transmission rate exceeds the threshold value, initiating communication with the second wireless communication device using the unused channel of the selected frequency band as a communication channel at the highest transmission rate (see col. 7, lines 25-31; col. 8, lines 17-41,52-65; Figs. 1-2, 9-11),

if the received field strength value at the highest transmission rate does not exceed the threshold value, determining whether an immediately lower one of the plurality of transmission rates exceeds the threshold value (see col. 7, lines 25-31,45-51; col. 8, lines 17-41,52-65; Figs. 1-2, 9-11),

if the received field strength value at the immediately lower transmission rate exceeds the threshold value, initiating communication with the second wireless communication device using the unused channel of the selected frequency band as a communication channel at the immediately lower transmission rate (see col. 8, lines 17-41,52-65; Figs. 1-2, 9-11),

if the received field strength value at the immediately lower transmission rate does not exceed the threshold value (see col. 8, lines 17-41,52-65; Figs. 1-2, 9-11),

(i) determining whether the received field strength value at a next lower one of the plurality of transmission rates exceeds the threshold value (see col. 7, lines 25-31,45-51; col. 8, lines 17-41,52-65; Figs. 1-2, 9-11), where the system monitors bands to determine availability and interference to select an available band for communication as evidenced by the fact that one of ordinary skill in the art would clearly recognize.,

(ii) if the received field strength value at the next lower transmission rate exceeds the threshold value, initiating communication with the second wireless communication device using the unused channel of the selected frequency band as a communication channel at the next lower transmission rate (see col. 8, lines 17-41,52-65; Figs. 1-2, 9-11),

(iii) if the received field strength value at the next lower transmission rate does not exceed the threshold value, repeating steps (i) through (iii) until the received field strength value at the next lower one of the plurality of transmission rates exceeds the threshold value or until the next lower one of the plurality of transmission rates is a lowest acceptable transmission rate (see col. 7, lines 25-31,45-51; col. 8, lines 17-41,52-65; Figs. 1-2, 9-11),
and

(iv) if the next lower one of the plurality of transmission rates is the lowest acceptable transmission rate, initiating communication with the second wireless communication device using the unused channel of the selected frequency band as a communication channel at the next lower transmission rate without determining whether the received field strength value at

the lowest acceptable transmission rate exceeds the threshold value (see col. 7, lines 25-31,45-51; col. 8, lines 17-41,52-65; Figs. 1-2, 9-11); and

(d) when the selected frequency band (i) does not include an unused channel, or (ii) does not include an unused channel in which no disturbing wave is present, or (iii) includes the unused channel in which no disturbing wave is present but there is no transmission rate associated with the selected frequency band at which the received field strength value exceeds the threshold value, selecting the next highest frequency band from the plurality of frequency bands and repeating steps (b) through (d) using the next highest frequency band as the selected frequency band (see col. 7, lines 25-31,45-51; col. 8, lines 17-41,52-65; Figs. 1-2, 9-11).

Regarding **claims 13 and 25**, Walker discloses in a first wireless communication device, a method of carrying out wireless communication with a second wireless communication device (see abstract; Figs. 1-2, 20-22), said method comprising:

periodically determining, during communication with the second wireless communication device using a particular channel of a given one of a plurality of frequency bands as a communication channel, whether a disturbing wave is present in the communication channel (see col. 7, lines 25-31,45-51; col. 8, lines 17-41,52-65; Figs. 1-2, 9-11), where the system monitors bands to determine availability and interference to select an available band for communication as evidenced by the fact that one of ordinary skill in the art would clearly recognize (see col. 8, lines 36-44; Figs. 1-2, 10-11); and

when the disturbing wave is present in the communication channel (see col. 8, lines 36-44; Figs. 1-2),

(a) determining whether the given one of the plurality of frequency bands, includes an unused channel in which no disturbing wave is present (see col. 7, lines 45-51; Figs. 1-2, 10-11),

(b) when the given one of the plurality of frequency bands includes the unused channel in which no disturbing wave is present, determining a maximum transmission rate at which a received field strength value exceeds a threshold value from a plurality of transmission rates associated with the given one of the plurality of frequency bands (see col. 7, lines 45-51; col. 8, lines 27-35,52-65; col. 9, lines 12-24; Figs. 1-2, 9-11),

(c) when the given one of the plurality of frequency bands (i) does not include an unused channel, or (ii) does not include an unused channel in which no disturbing wave is present, or (iii) includes the unused channel in which no disturbing wave is present but none of the associated plurality of transmission rates provides a received field strength value that exceeds the threshold value, substituting another one of the plurality of frequency bands for the given one of the plurality of frequency bands and then repeating steps (a) through (c) (see col. 7, lines 45-51; col. 8, lines 27-35,52-65; Figs. 1-2, 9-11),

(d) when the maximum transmission rate is successfully determined in step (b), continuing communication with the second wireless communication device using the unused channel as the communication channel at the determined maximum transmission rate (see col. 7, lines 45-51; col. 8, lines 27-35,52-65; Figs. 1-2, 10-11, 20-22),

(e) when none of the plurality of frequency bands includes an unused channel or when none of the plurality of frequency bands includes an unused channel in which no disturbing wave is present, continuing communication with the second wireless communication device

for a predetermined time period using the given one of the plurality of frequency bands as the communication channel (see col. 5, lines 55-62; col. 6, lines 13-32; col. 8, lines 4-12; Fig. 1-2, 10-11).

Regarding **claim 9**, Walker discloses a method according to claim 13, further comprising: when none of the plurality of frequency bands includes an unused channel or when none of the plurality of frequency bands includes an unused channel in which no disturbing wave is present, continuing communication with the second wireless communication device for a predetermined time period using the given one of the plurality of frequency bands as the communication channel (see col. 5, lines 55-62; col. 6, lines 13-32; Fig. 1-2, 10-11).

Regarding **claims 10 and 22**, Walker discloses a method according to claim 8, wherein when none of the plurality of frequency bands includes an unused channel or when none of the plurality of frequency bands includes an unused channel in which no disturbing wave is present, said method further comprises: transmitting a message (e.g., communication) to the second wireless communication device indicating that communication cannot be carried out (see col. 8, lines 48-51; col. 9, lines 6-11; Figs. 2, 13-15), where communication cannot be maintained in which a communication of new configuration is sent to another participating device.

Regarding **claims 11, 15, 23, and 27**, Walker discloses a method according to claim 13, wherein said step of determining whether the given one of the plurality of frequency bands includes an unused channel in which no disturbing wave is present (see Figs. 1-2) includes:

determining whether the given one of the plurality of frequency bands includes a first unused channel (see col. 7, lines 45-51; col. 8, lines 27-35,52-65; Figs. 1-2, 9-11),

when the given one of the plurality of frequency bands includes the first unused channel, determining whether a disturbing wave is present in the first unused channel, when no disturbing wave is present in the first unused channel, defining the first unused channel as the unused channel in which no disturbing wave is present, and when the disturbing wave is present in the first unused channel (see col. 7, lines 45-51; col. 8, lines 27-35,52-65; Figs. 1-2, 9-11),

(i) determining whether the given one of the plurality of frequency bands includes another unused channel (see col. 7, lines 45-51; col. 8, lines 27-35,52-65; Figs. 1-2, 9-11),

(ii) when the given one of the plurality of frequency bands includes the another unused channel, determining whether a disturbing wave is present in the another unused channel (see col. 8, lines 27-35,52-65; Figs. 1-2, 9-11),

(iii) when the disturbing wave is present in the another unused channel, repeating steps (i) through (iii) using yet another unused channel in place of the another unused channel (see col. 8, lines 27-35,52-65; Figs. 1-2, 9-11), and

(iv) when no disturbing wave is present in the another unused channel, defining the another unused channel as the unused channel in which no disturbing wave is present (see col. 8, lines 27-35,52-65; Figs. 1-2, 9-11).

Regarding **claims 16 and 28**, Walker discloses a method according to claim 13, wherein said step of determining a maximum transmission rate at which a received field strength value exceeds the threshold value (see Fig. 2) includes:

determining whether a received field strength value at a highest one of the plurality of transmission rates transmission rate exceeds the threshold value (see col. 9, lines 55-60; col. 8, lines 52-65; Figs. 1-2),

when the received field strength value at the highest one of the plurality of transmission rates exceeds the threshold value, designating the highest one of the plurality of transmission rates as the maximum transmission rate (see col. 8, lines 27-35,52-65; Figs. 1-2, 9-11); and

when the received field strength value at the highest one of the plurality of transmission rates does not exceed the threshold value (see col. 8, lines 27-35,52-65; Figs. 1-2, 9-11),

(i) determining the received field strength value at whether a next lower one of the plurality of transmission rates exceeds the threshold value (see col. 8, lines 27-35,52-65; Figs. 1-2, 9-11),

(ii) when the received field strength value at the next lower one of the plurality of transmission rates exceeds the threshold value, designating the next lower one of the plurality of transmission rates as the maximum transmission rate (see col. 8, lines 27-35,52-65; Figs. 1-2, 9-11),

(iii) when the received field strength value at the next lower one of the plurality of transmission rates does not exceed the threshold value, repeating steps (i) through (iii) until either the received field strength value for at least one of the plurality of transmission rates exceeds the threshold value or the next lower one of the plurality of transmission rates is a lowest acceptable transmission rate (see col. 8, lines 27-35,52-65; Figs. 1-2, 9-11), and

(iv) when the next lower one of the plurality of transmission rates is the lowest acceptable transmission rate, setting that transmission rate as the maximum transmission rate without

determining whether the received field strength value at that transmission rate exceeds the threshold value (see col. 8, lines 27-35, 52-65; Figs. 1-2, 9-11).

Regarding **claims 17 and 29**, Walker discloses a wireless communication apparatus for carrying out wireless communication with another wireless communication apparatus (see col. 7, lines 45-51; Figs. 1-2, 19-20), said apparatus comprising:

means for periodically determining, during communication with the another wireless communication apparatus at a particular one of a plurality of transmission rates associated with a given frequency band, whether the plurality of transmission rates includes at least one transmission rate that is higher than the particular transmission rate (see col. 8, lines 27-35; col. 8, line 52 - col. 9, line 5; col. 9, lines 55-61; Figs. 1-2, 9-11, 13-15);

means for, when the plurality of transmission rates includes the at least one transmission rate higher than the particular transmission rate, determining whether a received field strength value at one of the plurality of transmission rates that is immediately higher than the particular one of a plurality of transmission rates exceeds a threshold value (see col. 8, lines 27-35; col. 8, line 52 - col. 9, line 5; col. 9, lines 55-61; Figs. 1-2, 9-11, 13-15);

means for, when the plurality of transmission rates does not include the at least one transmission rate higher than the particular transmission rate or when the received field strength value at the immediately higher one of the plurality of transmission rates does not exceed the threshold value, continuing the communication with the another wireless communication apparatus at the particular transmission rate (see col. 8, lines 27-35; col. 8, line 52 - col. 9, line 5; col. 9, lines 12-24, 55-61; Figs. 1-2, 9-11, 13-15); and

means for, when the received field strength value at the immediately higher one of the plurality of transmission rates exceeds the threshold value (see col. 8, lines 27-35; col. 8, line 52 - col. 9, line 5; col. 9, lines 55-61; Figs. 1-2, 9-11, 13-15),

(i) determining whether a next higher one of the plurality of transmission rates exists (see col. 8, lines 27-35; col. 8, line 52 - col. 9, line 5; col. 9, lines 12-24, 55-61; Figs. 1-2, 9-11, 13-15),

(ii) when the received field strength value at the next higher one of the plurality of transmission rates exists, determining whether the received field strength value at the next higher one of the plurality of transmission rates exceeds the threshold value (see col. 8, lines 27-35; col. 8, line 52 - col. 9, line 5; col. 9, lines 12-24, 55-61; Figs. 1-2, 9-11, 13-15),

(iii) when the received field strength value at the next higher one of the plurality of transmission rates does not exceed the threshold value, continuing communication with the another wireless communication apparatus at an immediately lower one of the plurality of transmission rates (see col. 8, lines 27-35; col. 8, line 52 - col. 9, line 5; col. 9, lines 12-24, 55-61; Figs. 1-2, 9-11, 13-15), and

(iv) when the received field strength value at the next higher one of the plurality of transmission rates exceeds the threshold value, repeating (i) through (iv) until the next higher one of the plurality of transmission rates is a highest one of the plurality of transmission rates (see col. 8, lines 27-35; col. 8, line 52 - col. 9, line 5; col. 9, lines 12-24, 55-61; Figs. 1-2, 9-11, 13-15).

Regarding **claims 18 and 30**, Walker discloses a wireless communication apparatus for carrying out wireless communication with another wireless communication apparatus (see col. 7, lines 45-51; Figs. 1-2, 19-20), said apparatus comprising:

means for periodically determining, during communication with the another wireless communication apparatus at a particular one of a plurality of transmission rates associated with a given frequency band, whether a received field strength value at the particular one of the plurality of transmission rates exceeds a threshold value (see col. 8, lines 27-35; col. 8, line 52 - col. 9, line 5; col. 9, lines 12-24, 55-61; Figs. 1-2, 9-11, 13-15);

means for, when the received field strength value at the particular one of the plurality of transmission rates exceeds the threshold value, continuing the communication with the another wireless communication apparatus at the particular one of the plurality of transmission rates (see col. 8, lines 27-35; col. 8, line 52 - col. 9, line 5; col. 9, lines 12-24, 55-61; Figs. 1-2, 9-11, 13-15);

means for, when the received field strength value at the particular one of the plurality of transmission rates does not exceed the threshold value, determining whether the received field strength value at an immediately lower one of the plurality of transmission rates exceeds the threshold value (see col. 8, lines 27-35; col. 8, line 52 - col. 9, line 5; col. 9, lines 12-24, 55-61; Figs. 1-2, 9-11, 13-15);

means for, when the received field strength value at the immediately lower one of the plurality of transmission rates exceeds the threshold value, continuing the communication with the another wireless communication apparatus at the immediately lower one of the

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plurality of transmission rates (see col. 8, lines 27-35; col. 8, line 52 - col. 9, line 5; col. 9, lines 12-24, 55-61; Figs. 1-2, 9-11, 13-15); and

means for, when the received field strength value at the immediately lower one of the plurality of transmission rates does not exceed the threshold value,

(i) determining the received field strength value at whether a next lower one of the plurality of transmission rates exceeds the threshold value (see col. 8, lines 27-35; col. 8, line 52 - col. 9, line 5; col. 9, lines 12-24, 55-61; Figs. 1-2, 9-11, 13-15),

(ii) when the received field strength value at the next lower one of the plurality of transmission rates exceeds the threshold value, continuing the communication with the another wireless communication apparatus at the next lower one of the plurality of transmission rates (see col. 8, lines 27-35; col. 8, line 52 - col. 9, line 5; col. 9, lines 12-24, 55-61; Figs. 1-2, 9-11, 13-15),

(iii) when the received field strength value at the next lower one of the plurality of transmission rates does not exceed the threshold value, repeating (i) through (iii) until either the received field strength value for at least one of the plurality of transmission rates exceeds the threshold value or until the next lower one of the plurality of transmission rates is a lowest acceptable transmission rate (see col. 8, lines 27-35; col. 8, line 52 - col. 9, line 5; col. 9, lines 12-24, 55-61; Figs. 1-2, 9-11, 13-15), and

(iv) when the next lower one of the plurality of transmission rates is the lowest acceptable transmission rate, setting that transmission rate as the maximum transmission rate without determining whether the received field strength value at that transmission rate exceeds the

threshold value (see col. 8, lines 27-35; col. 8, line 52 - col. 9, line 5; col. 9, lines 12-24, 55-61; Figs. 1-2, 9-11, 13-15).

Regarding **claims 19 and 31**, Walker discloses an apparatus (see col. 7, lines 45-51; Figs. 1-2, 19-20) according to claim 30, further comprising:

means for, when the received field strength value at the least one of the plurality of transmission rates does not exceed the threshold value, selecting another frequency band, determining whether the another frequency band includes an unused channel in which no disturbing wave is present, when the another frequency band includes the unused channel in which no disturbing wave is present (see col. 8, lines 27-35; col. 8, line 52 - col. 9, line 5; col. 9, lines 12-24, 55-61; Figs. 1-2, 9-11, 13-15),

(i) determining a maximum transmission rate associated with the another frequency band at which the received field strength value exceeds the threshold value (see col. 8, lines 27-35; col. 8, line 52 - col. 9, line 5; col. 9, lines 12-24, 55-61; Figs. 1-2, 9-11, 13-15), and

(ii) continuing communication with the another wireless communication apparatus using the unused channel as the communication channel at the determined maximum transmission rate, and when the another frequency band does not include an unused channel or does not include an unused channel in which no disturbing wave is present or when the another frequency band includes the unused channel in which no disturbing wave is present but there is no transmission rate associated with the another frequency band at which the received field strength value exceeds the threshold value, continuing communication with the another wireless communication apparatus using the particular channel of the given frequency band as the communication channel at a lowest transmission rate associated with the given

frequency band (see col. 8, lines 27-35; col. 8, line 52 - col. 9, line 5; col. 9, lines 12-24, 55-61; Figs. 1-2, 9-11, 13-15).

Regarding **claim 21**, Walker discloses an apparatus according to claim 20, further comprising: means for, when none of the plurality of frequency bands includes an unused channel or when none of the plurality of frequency bands includes an unused channel in which no disturbing wave is present, setting a predetermined channel of a predetermined frequency band as the communication channel, setting a predetermined transmission rate for the communication channel, and then initiating communication with the another wireless communication apparatus using the communication channel at the predetermined transmission rate (see col. 8, lines 27-35; col. 8, line 52 - col. 9, line 5; Figs. 1-2, 9-11, 13-15).

Response to Arguments

3. Applicant's arguments filed 17 August 2009 have been fully considered but they are not persuasive.

The Examiner respectfully disagrees with applicant's arguments as the applied reference(s) provide more than adequate support and to further clarify (see the above claims for relevant citations and comments in this section).

4. Regarding applicant's argument of claim 8 on pg. 25, "...neither disclose nor suggest initiating communication with a second wireless communication device using an unused channel of a selected frequency band as a communication channel at a highest transmission

rate if the received field strength value at the highest transmission rate exceeds the threshold value...”, the Examiner respectfully disagrees. Applicant has failed to interpret and appreciate the teachings of well-known prior art Walker that clearly discloses the claimed feature(s) as would be clearly recognized by one of ordinary skill in the art. In particular, Walker discloses the language as related to the claimed feature(s)

if the received field strength value at the highest transmission rate exceeds the threshold value, initiating communication with the second wireless communication device using the unused channel of the selected frequency band as a communication channel at the highest transmission rate (see col. 7, lines 25-31; col. 8, lines 17-41, 52-65; Figs. 1-2, 9-11).

Therefore, as addressed above, the applied reference more than adequately meets the claim limitations.

5. Regarding argument in the par. bridging pgs. 30-31, “...not prior art...”, the Examiner respectfully disagrees. Walker reference was filed 20 February 2003 which is before the filing date of 22 April 2003 for the national stage application of the instant application. Walker has priority to the dates of **20 February 2002 and 26 September 2001** in which both dates are prior to the instant application priority claim of the Japanese application filed 23 April 2002. Therefore, as addressed above, the reference is hereby maintained. Also, see item 5 of the office action mailed on 15 April 2009.
6. Regarding applicant’s argument(s) of claims 9-11, 13, 15-23, 25, and 27-31, the claims are addressed for the same reasons as set forth above and as applied above in each claim rejection.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIE J. DANIEL JR whose telephone number is (571)272-7907. The examiner can normally be reached on 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/WJD,Jr./

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19 November 2009

/Charles N. Appiah/
Supervisory Patent Examiner, Art Unit 2617